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AVR/8051 USB PROGRAMMER

USER MANUAL

FOR WINDOWS XP OS

For more Information Visit us at www.JustExecuteIt.com

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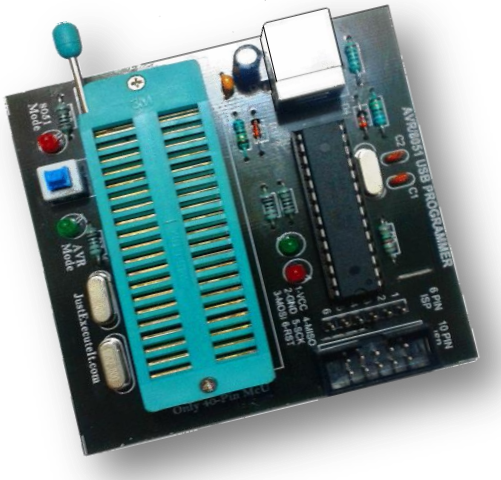
1. PACKAGE CONTENTS

a. AVR/8051 USB PROGRAMMER

b. A USB cable of type B-to-A, for connecting Programmer to a PC

c. 10-Pin FRC cable

d. CD with Software guide to AVR/8051 Programmer with 20-20 AR/8051 Projects Tutorials



(a). AVR/8051 USB ZIF PROGRAMMER

(b). A USB cable of type B-to-A, for connecting Programmer to a PC

(c).10-Pin FRC cable

(d). CD with Software guide to AVR/8051 Programmer with 20-20 AVR/8051 Projects Tutorials

2. INTRODUCTION

Microcontroller programming has been made simpler than ever before. AVR/8051 PROGRAMMER is very powerful yet Low cost and comfortable tool for any developer. Programmer gives the user a friendly environment with USB communication and easy GUI.

Features:

- ✓ Supports Windows Xp , Windows 7, Windows 8 , Windows Vista OS
- ✓ USB powered, No external supply is required.
- ✓ On Board 10-Pin FRC Socket, designed to connect Programmer to target development boards
- ✓ On Board 6-Pin Burg Strip, designed to connect programmer to Bread boards.
- ✓ 40 Pin ZIF Socket for programming only 40-Pin 8051/AVR Microcontrollers
- ✓ Enabled with SCK option to support targets with low clock speed (< 1,5MHz).
- ✓ supports wide range of AVR and 8051 microcontrollers such as:

ATMEGA:		**ATTINY:**	**AT90CAN:**	**AT90SXX:**
ATmega128, ATmega1280, ATmega1281, ATmega1284P, ATmega128A, **ATmega16,** ATmega162, ATmega164P, ATmega165, ATmega165P ATmega168, ATmega168P, ATmega169, ATmega169P, **ATmega32,** ATmega324P, ATmega324PA, ATmega325, ATmega3250, ATmega3250P, ATmega325P, ATmega328P, ATmega329, ATmega3290,	ATmega3290P, ATmega329P, ATmega32A, ATmega32HVB, ATmega32M1, ATmega32U4, ATmega32U6, ATmega48, ATmega48P, ATmega64, ATmega640, ATmega644, ATmega644P, ATmega645, ATmega6450, ATmega649, ATmega6490, ATmega64A, **ATmega8,** ATmega8515, ATmega8535, ATmega88, ATmega88P, ATmega88PA, **ATmega8A.**	ATtiny12, ATtiny13, ATtiny13A, ATtiny15, ATtiny167, ATtiny22, ATtiny2313, ATtiny24, ATtiny25, ATtiny26, ATtiny261, ATtiny434, ATtiny44, ATtiny45, ATtiny461, ATtiny48, ATtiny84, ATtiny85, ATtiny861, ATtiny88.	AT90CAN128, AT90CAN32, AT90CAN64. **AT90PWM:** AT90PWM2, AT90PWM2B, AT90PWM3, AT90PWM3B, AT90PWM81, AT90PWM216, AT90PWM2B, AT90PWM316. **AT90USB:** AT90USB1286, AT90USB1287, AT90USB162, AT90USB646, AT90USB647, AT90USB82.	AT90S1200, AT90S2313, AT90S2323, AT90S2343, AT90S4414, AT90S4433, AT90S4434, AT90S8515, AT90S8535, AT90SCR100H **AT89SXX:** **AT89S51,** **AT89S52,** **AT89S53,** AT86RF401, AT89S2051 AT89S4051, AT89S8252, AT89S8253,

3. IMPORTANT SAFETY WARNING AND HANDLING PROCEDURES

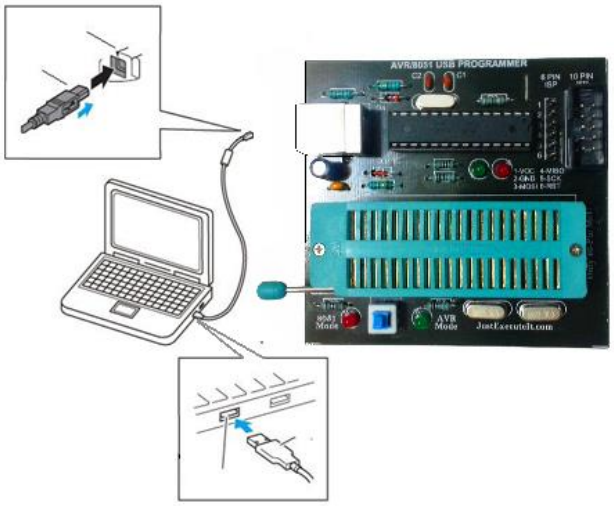
The AVR/8051 USB programmer is not intended for small children! Younger users should use this product only under adult supervision. By using this product, you agree not to hold "JustExecuteit.com" liable for any injury or damage related to the use or to the performance of this product. This product is not designed for, and should not be used in, applications where the malfunction of the product could cause injury or damage. Please take note of this additional precaution:

Since the PCB and its components are exposed, take standard precautions to protect your programmer from ESD (electrostatic discharge), such as first touching the surface the programmer is resting on before picking it up. When handing the programmer to another person, first touch their hand with your hand to equalize any charge imbalance between you so that you don't discharge through the programmer as the exchange is made.

4. GETTING STARTED WITH WINDOWS XP

i. Connecting Programmer

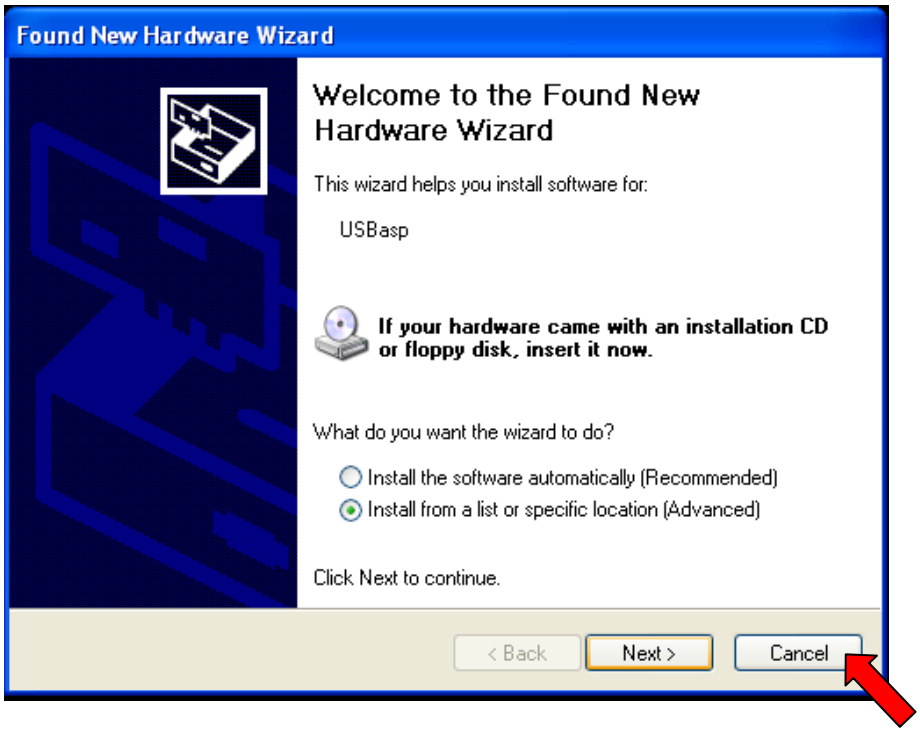
Plug one end of the USB cable into the USB connector on AVR/8051 USB PROG. Plug the other end into a USB port on your PC/Laptop as shown in the figure below.



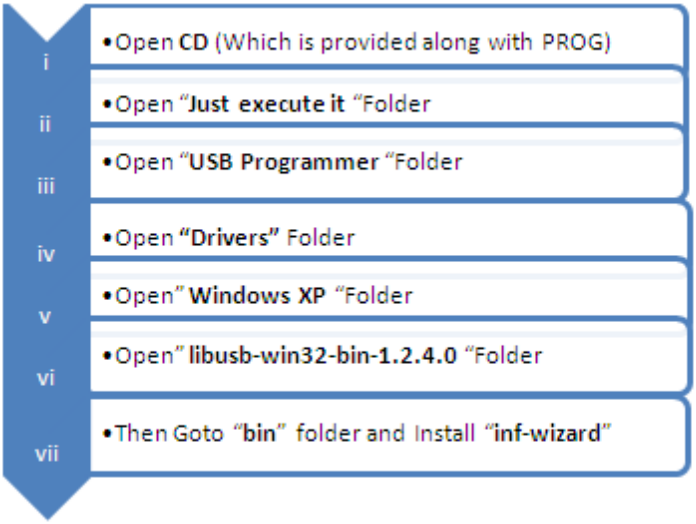
ii. **Installing Drivers** (There are different methods of installation one such is as follows)

After connecting USB programmer to your computer's USB port. Your XP computer will detect USP Programmer and display the "Found New Hardware Wizard pops up.

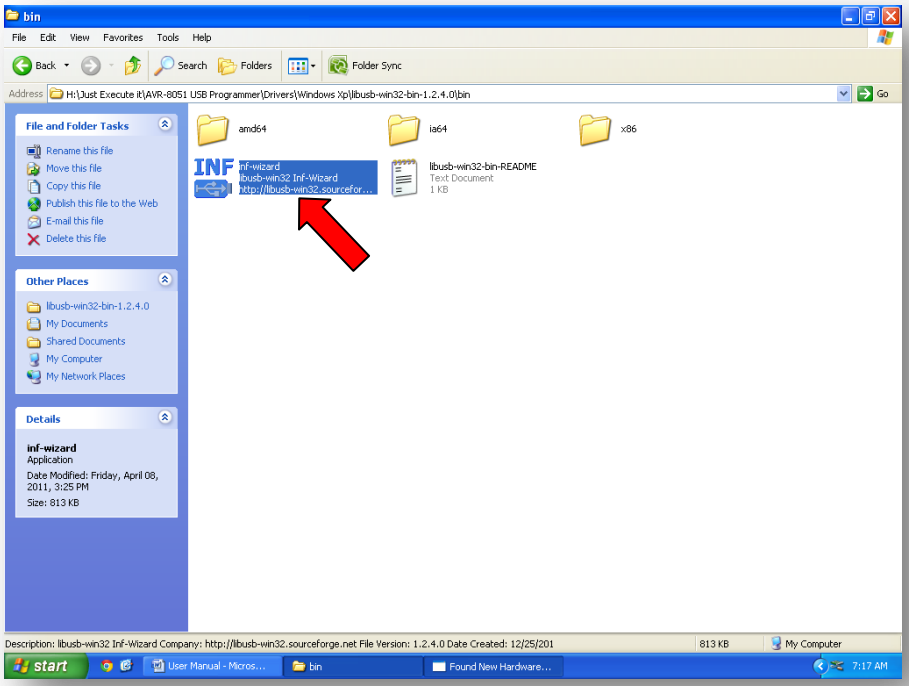
Step1: When the "Found New Hardware Wizard "window is displayed, click on "**Cancel".**


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
USBasp
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

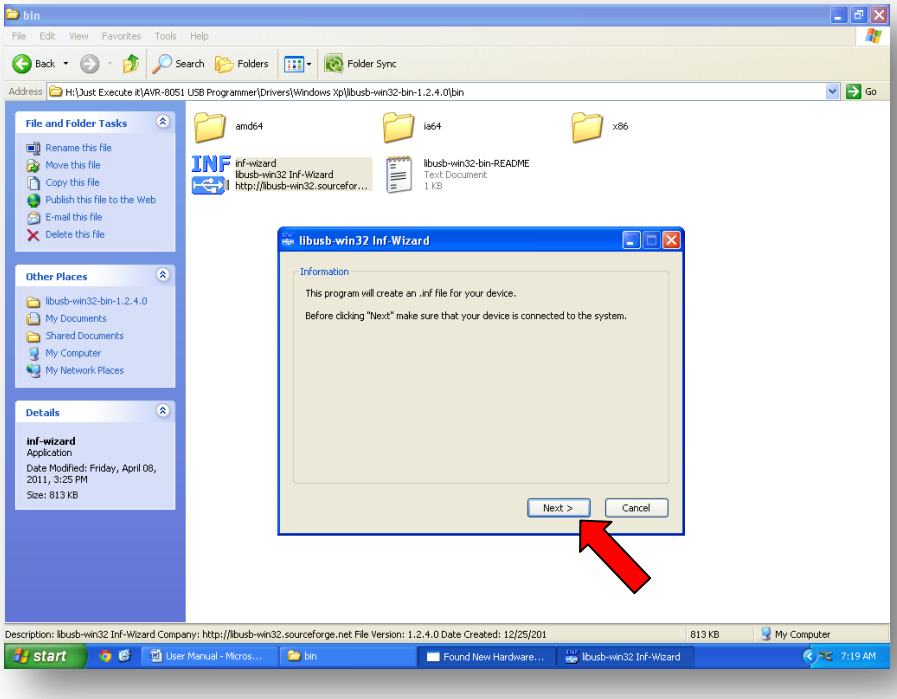
Step2: Then Go to "**libusb-win32-bin-1.2.4.0**"Folder and install **inf-wizard** software, which is located at following path: **H:\Just Execute it\USB Programmer \Drivers \Windows Xp** as guided below in following steps**:**



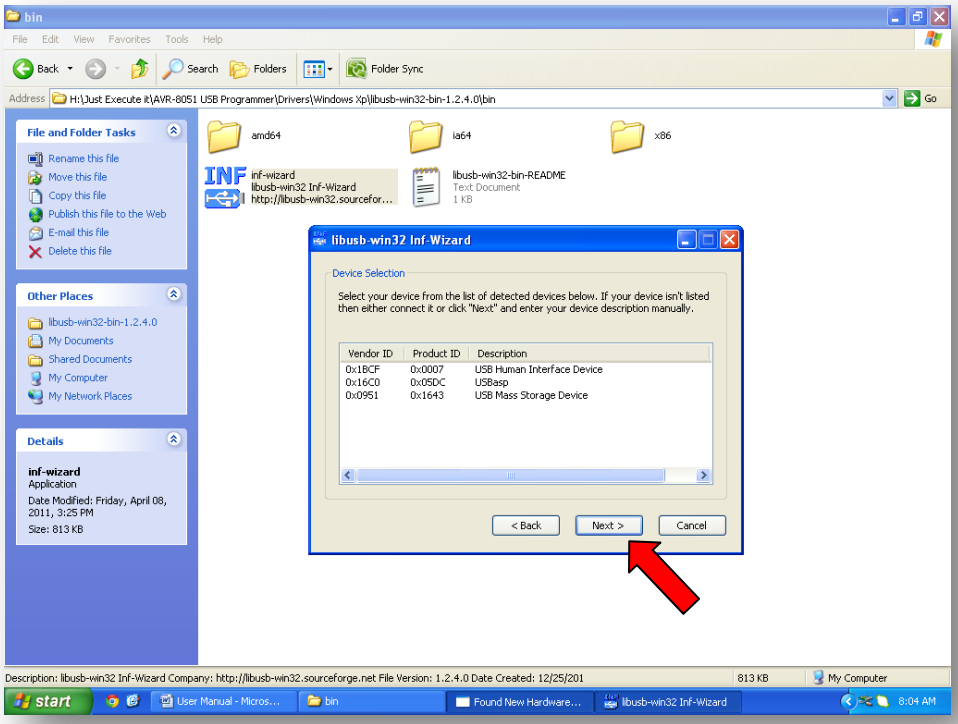
Step3: Double click on **INF** icon **and** Install "**inf-Wizard**"



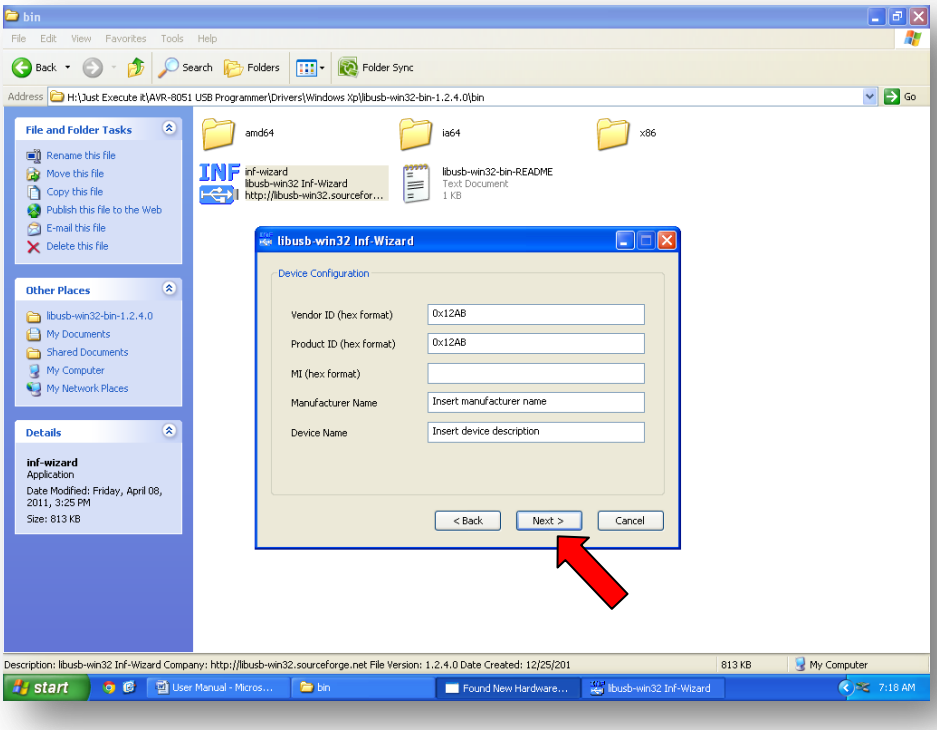
Step 4: Click on **Next**



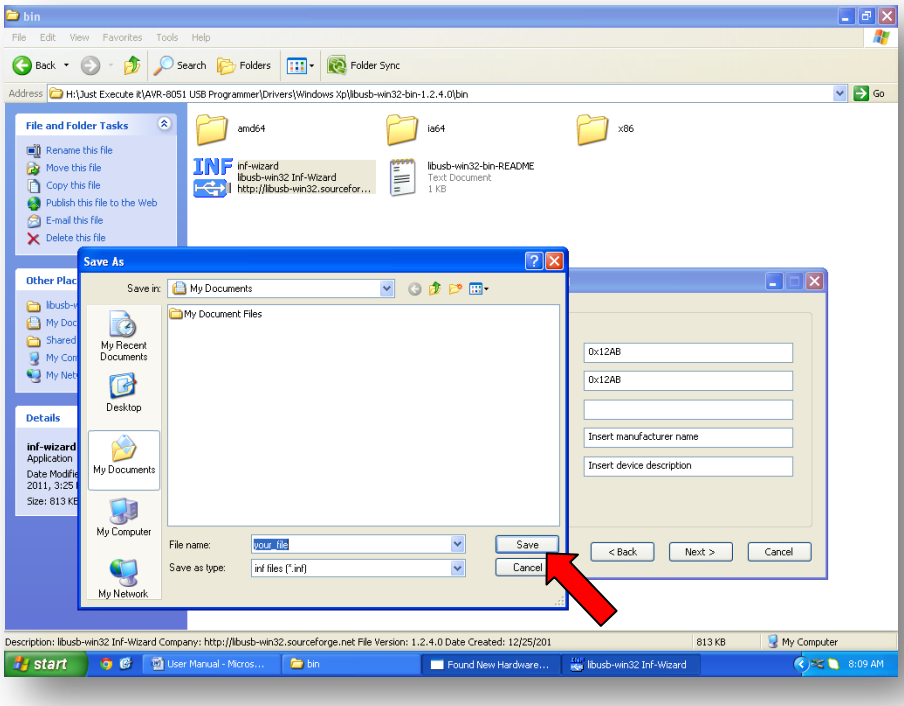
Step 5: Click on **Next**



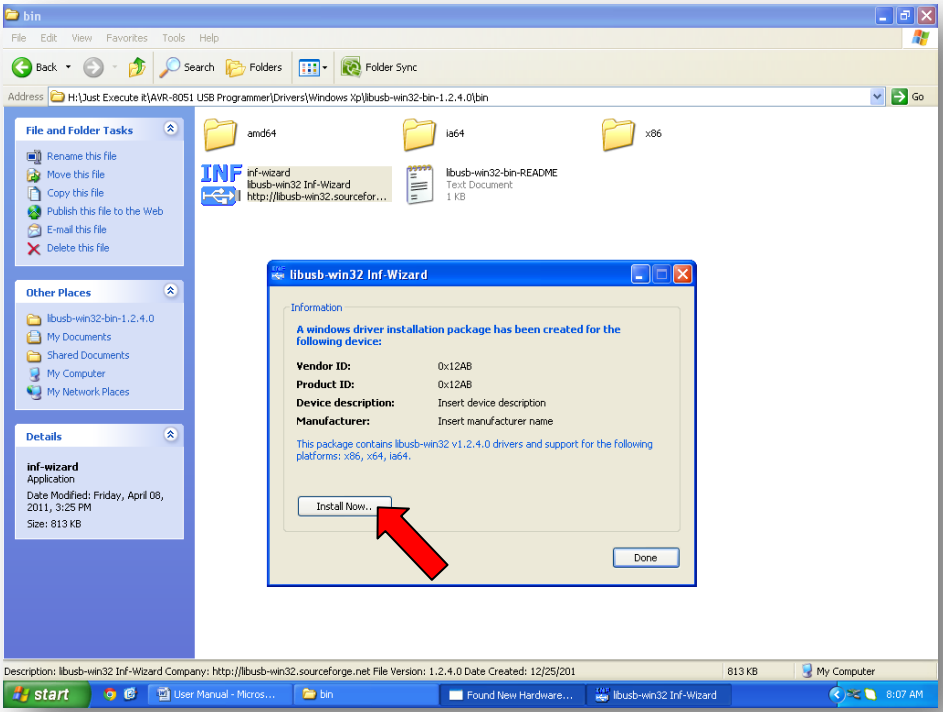
Step 6: Fill up the box as shown below and click **Next** (Mostly it will be automatically filled up)



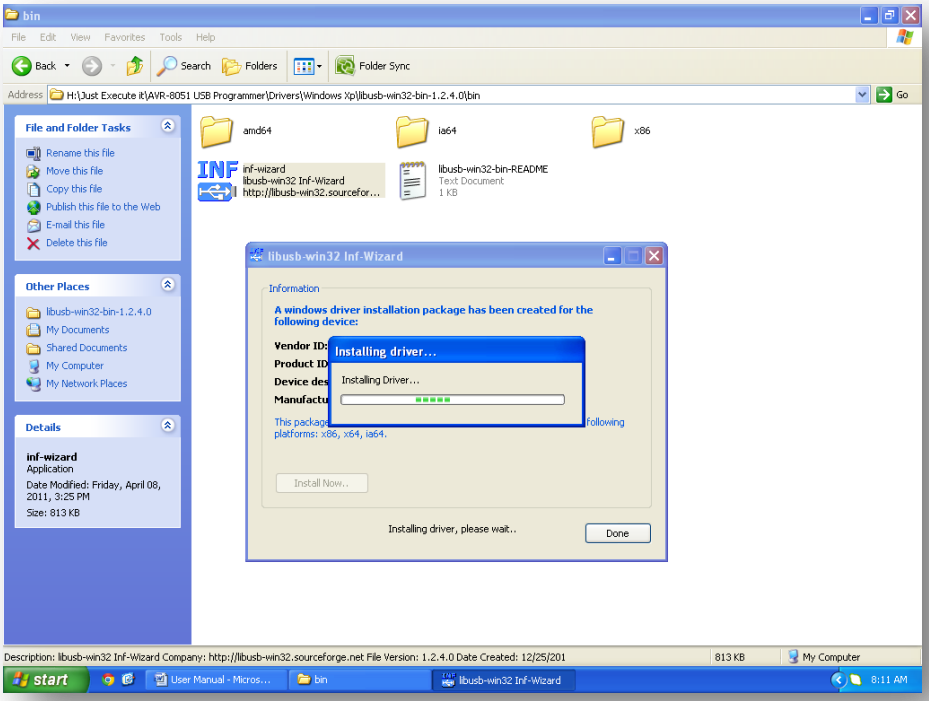
Step 7: Just click on **save**



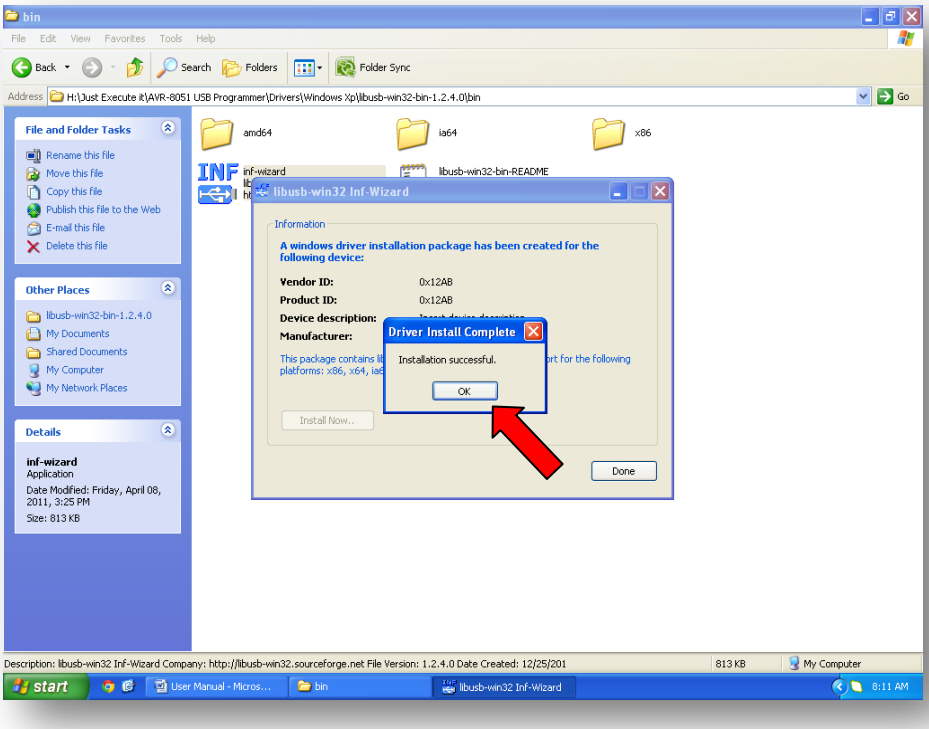
Step 8: Click on **Install Now**



Step9: Wait for **Installation**

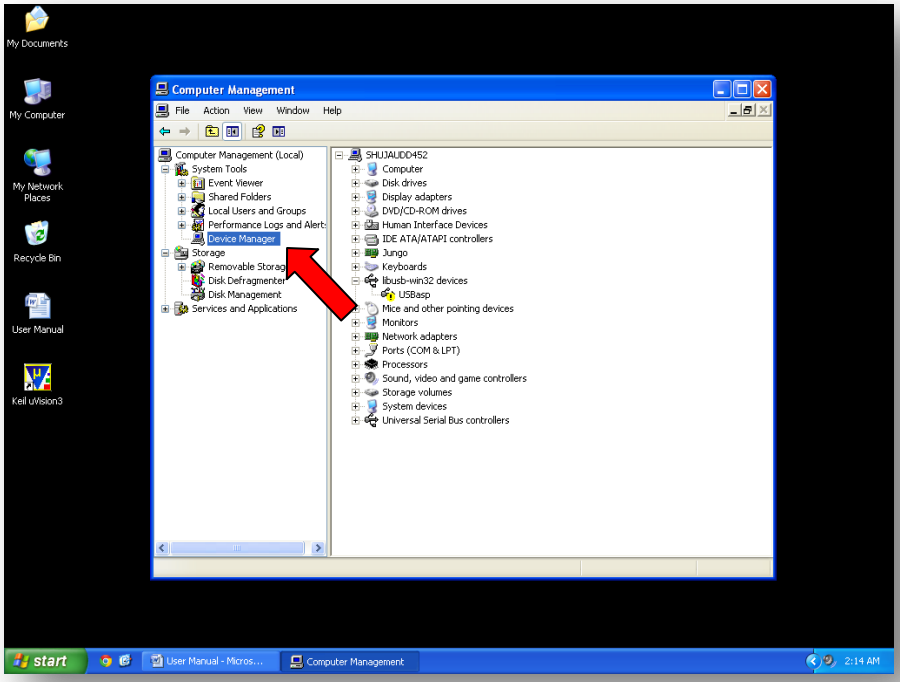


Step 10: Click on **OK**

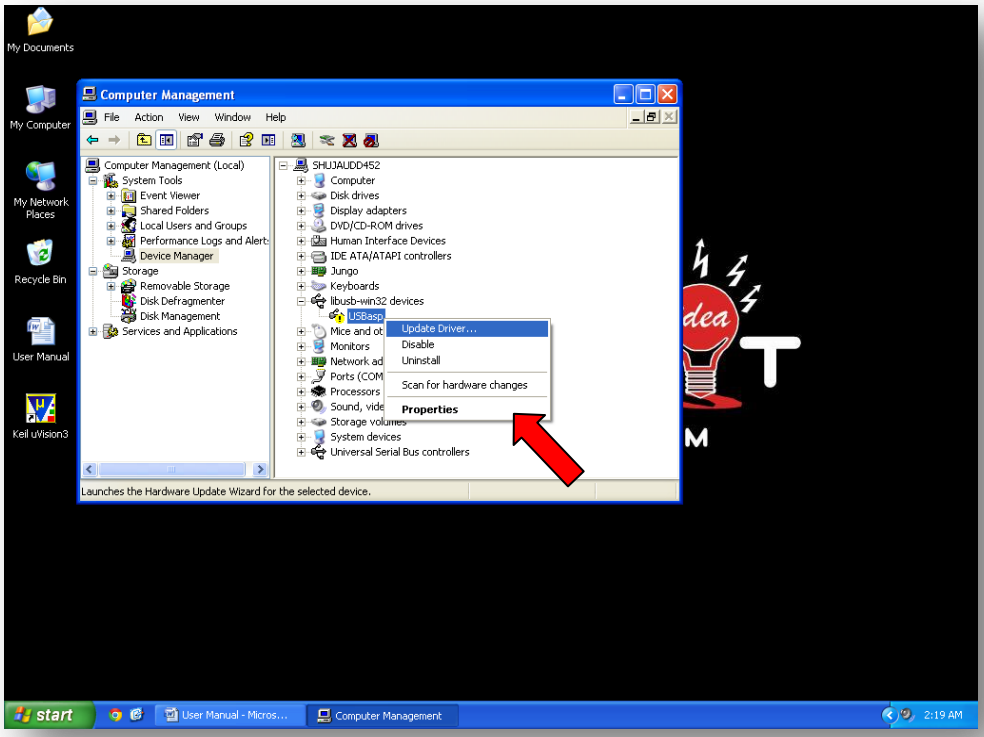


Step 11: Now, go to desktop screen and right click on **My computers** and select **Manage**

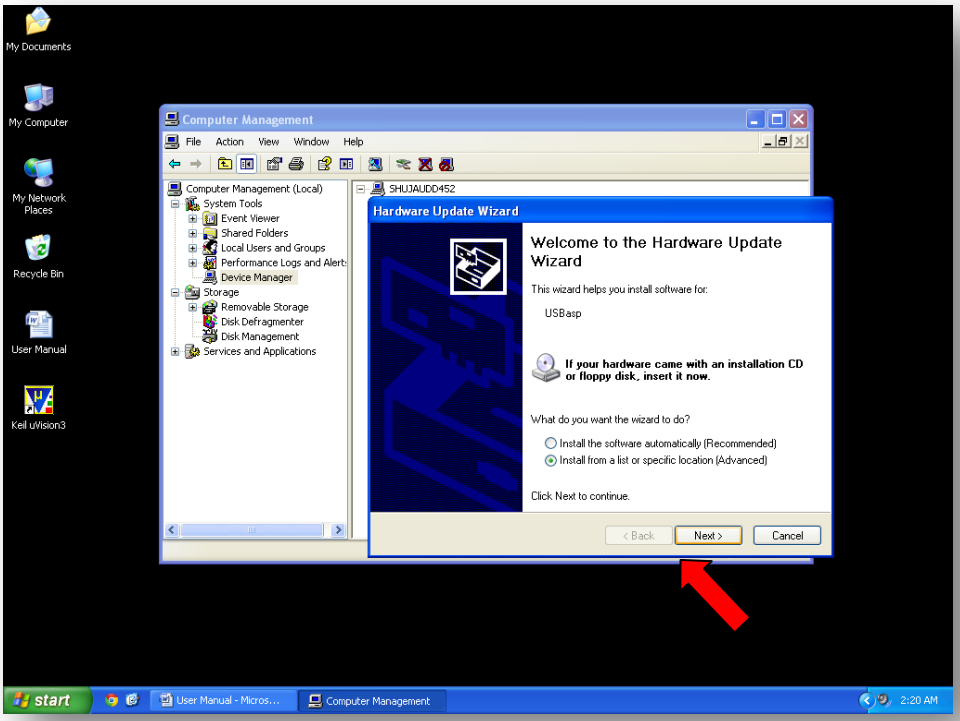
Step 12: Select **Device Manager**



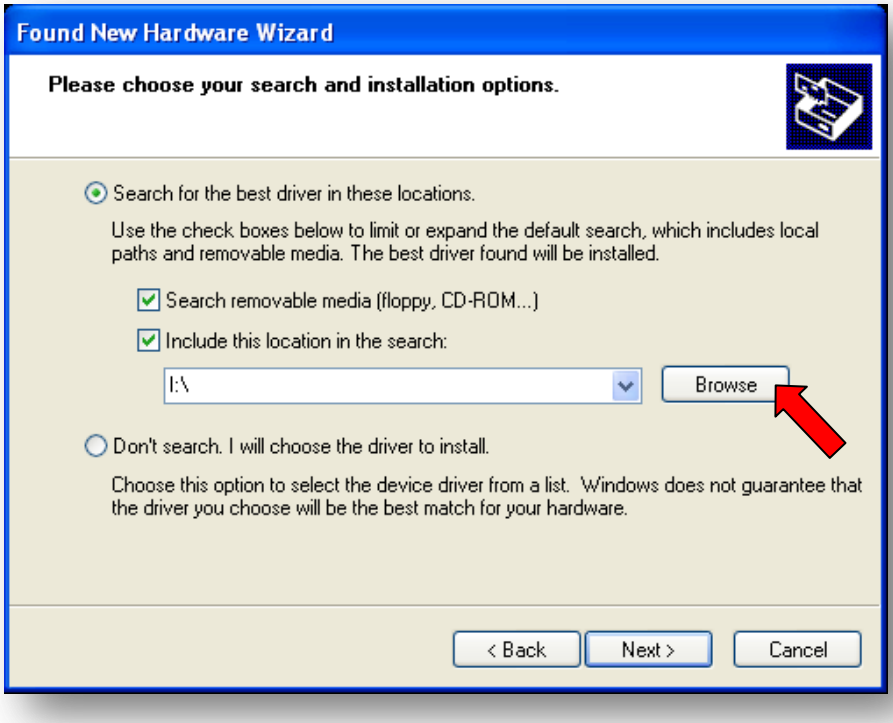
Step13: select **libusb-win32 device** and right click on **USBasp** then select **Update drivers**



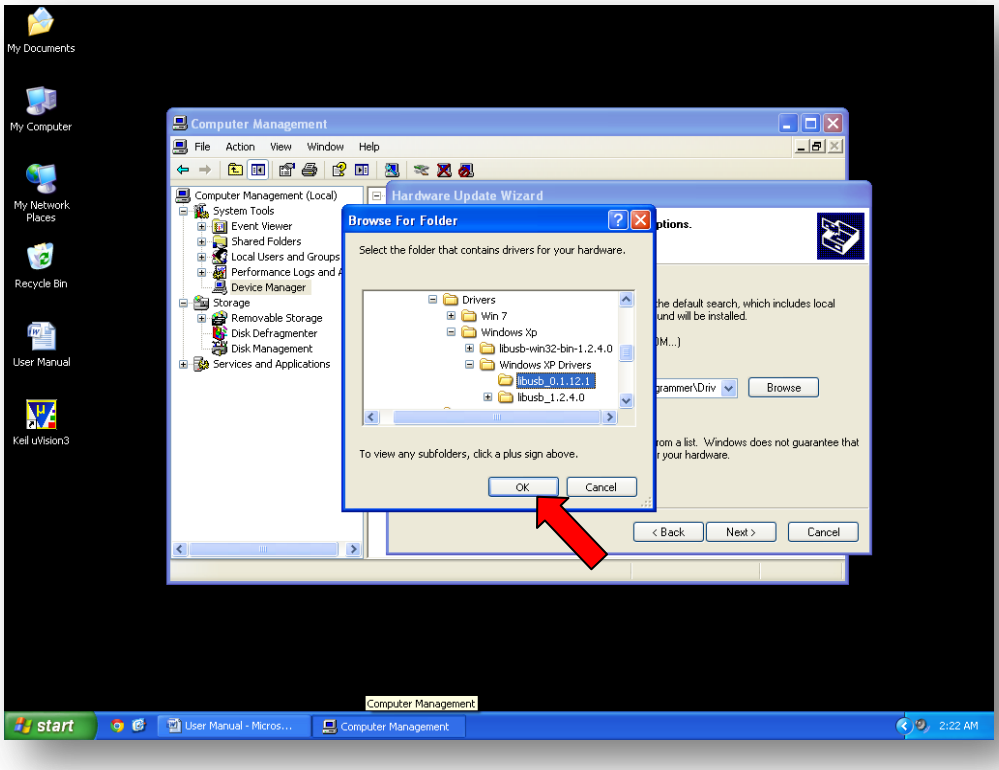
Step 14: Click on **NEXT**


Computer Management
Hardware Update Wizard
Welcome to the Hardware Update Wizard
This wizard helps you install software for:
USBasp
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel
start
2:20 AM

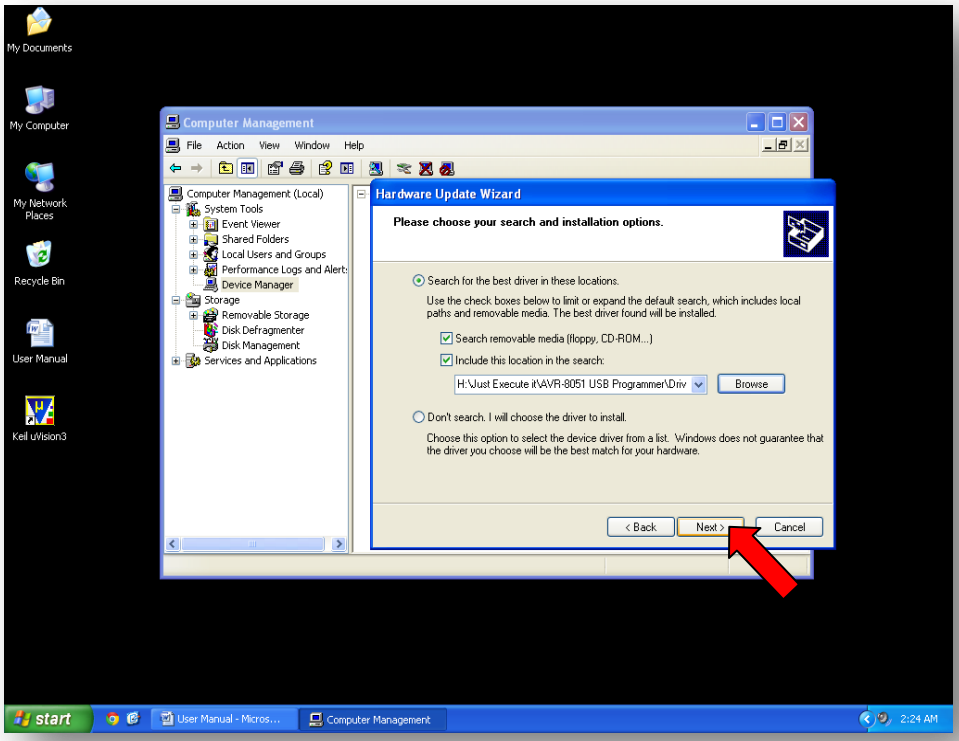
Step 15: Click on Brows and locate the **Windows Xp Drivers** Folder from the CD


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
I:\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

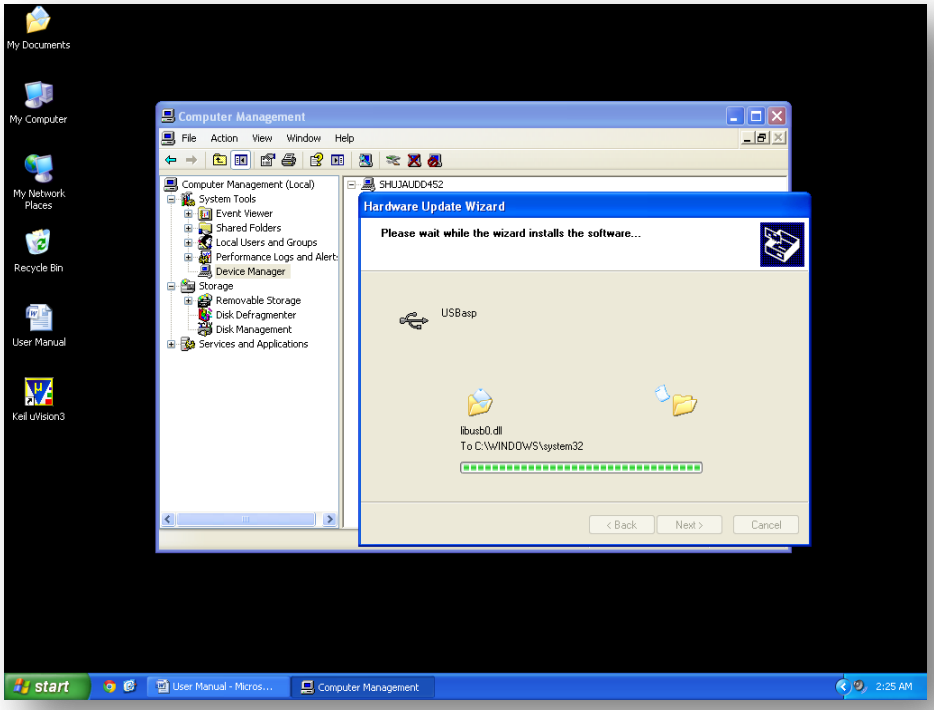
Step 16: Select **libusb_0.1.12.1** folder and click **Ok**



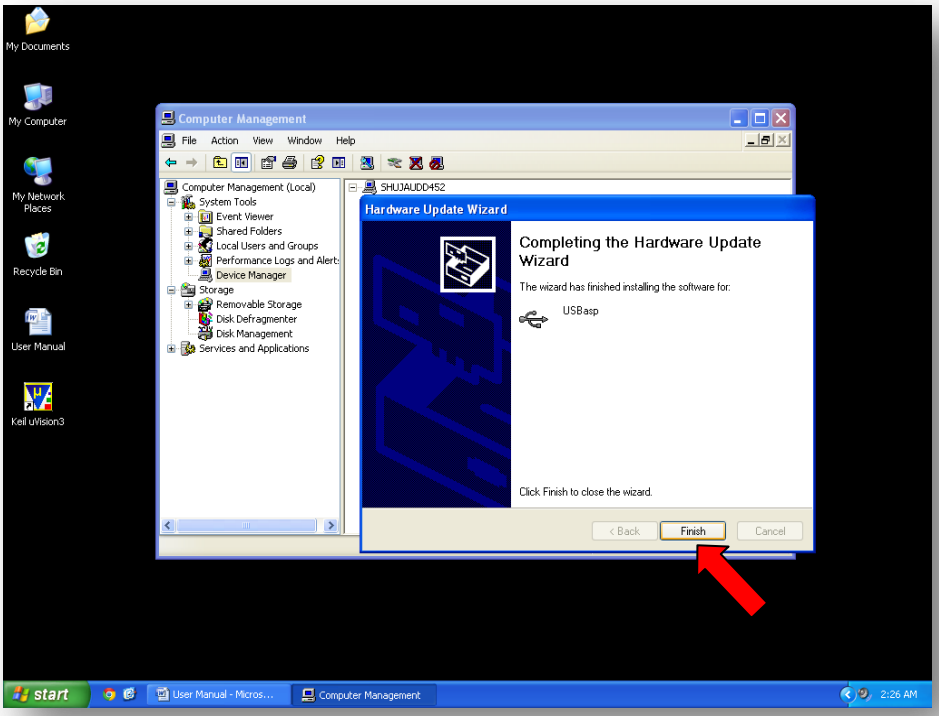
Step 17: Click Next


My Documents
My Computer
My Network Places
Recycle Bin
User Manual
Keil uVision3
Computer Management
File Action View Window Help
Computer Management (Local)
System Tools
Event Viewer
Shared Folders
Local Users and Groups
Performance Logs and Alert
Device Manager
Storage
Removable Storage
Disk Defragmenter
Disk Management
Services and Applications
Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
H:\Just Execute it\AVR-8051 USB Programmer\Driv
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel
start
User Manual - Micros...
Computer Management
2:24 AM

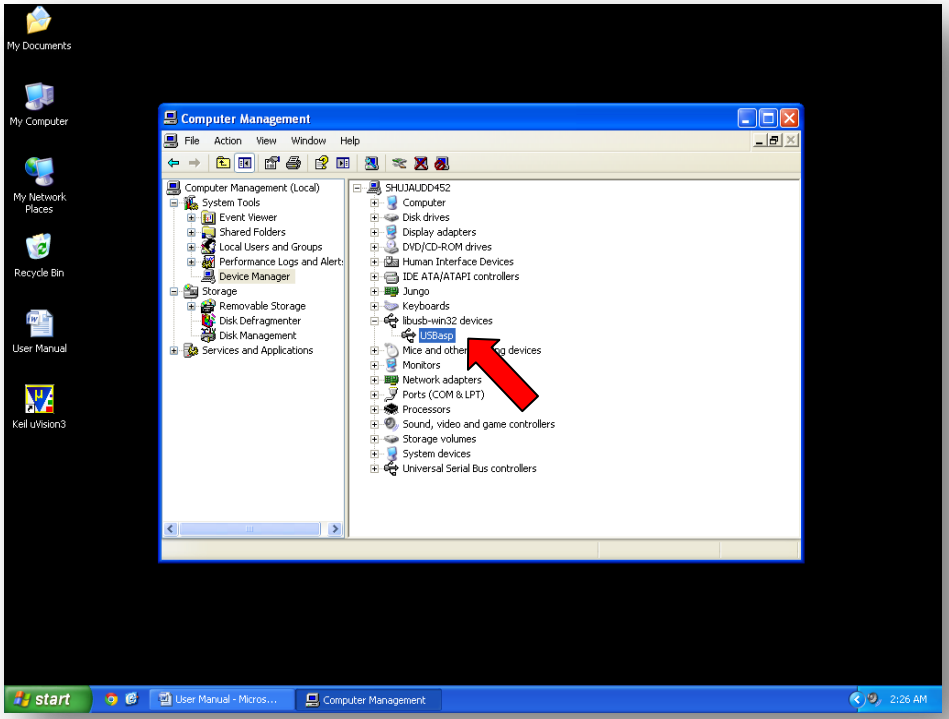
Step 18: Wait for Installation



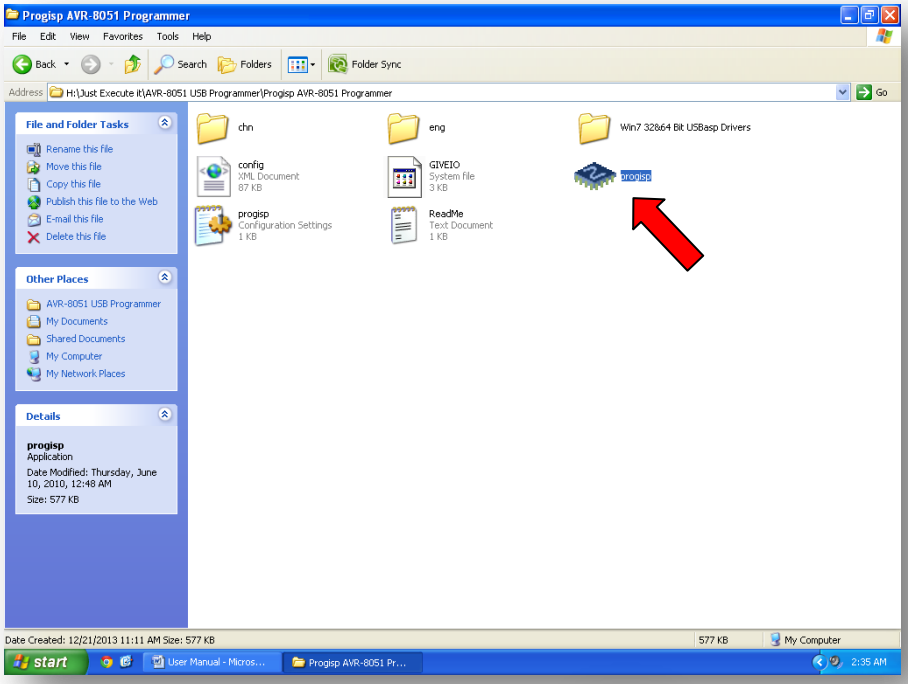
Step 19: Click on **Finish ,**this will complete the **Drivers installation for 8051/AVR USB Programmer**



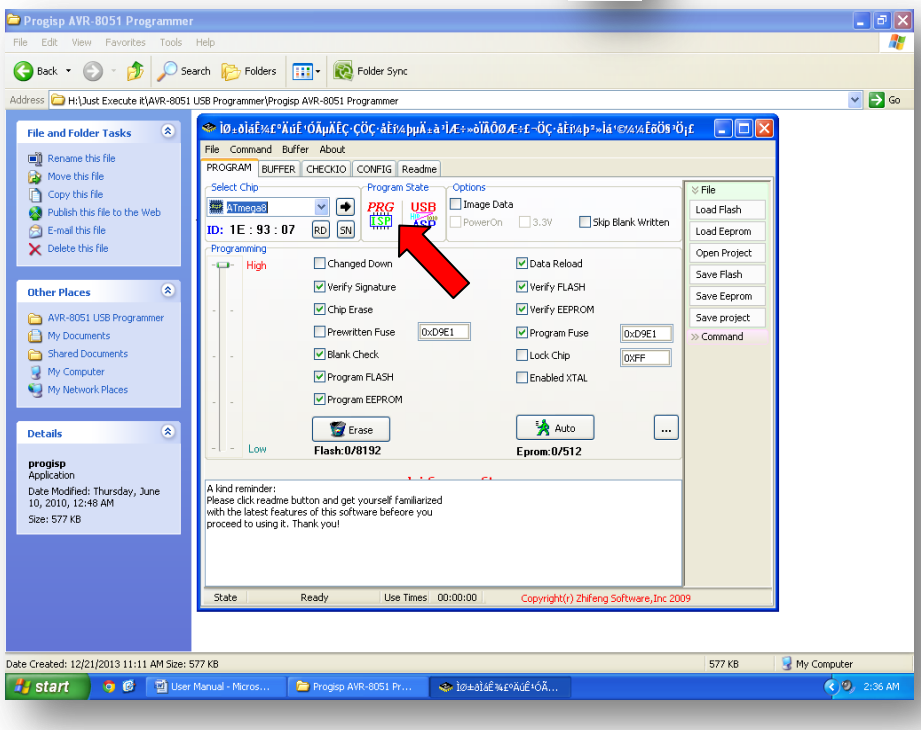
Step 20: Check an icon which will appear at right side of Device manager window as **"USBasp",** then close the window



Step21: Go to **Progisp AVR/8051 Programmer** Folder Present in CD and open **Progisp**



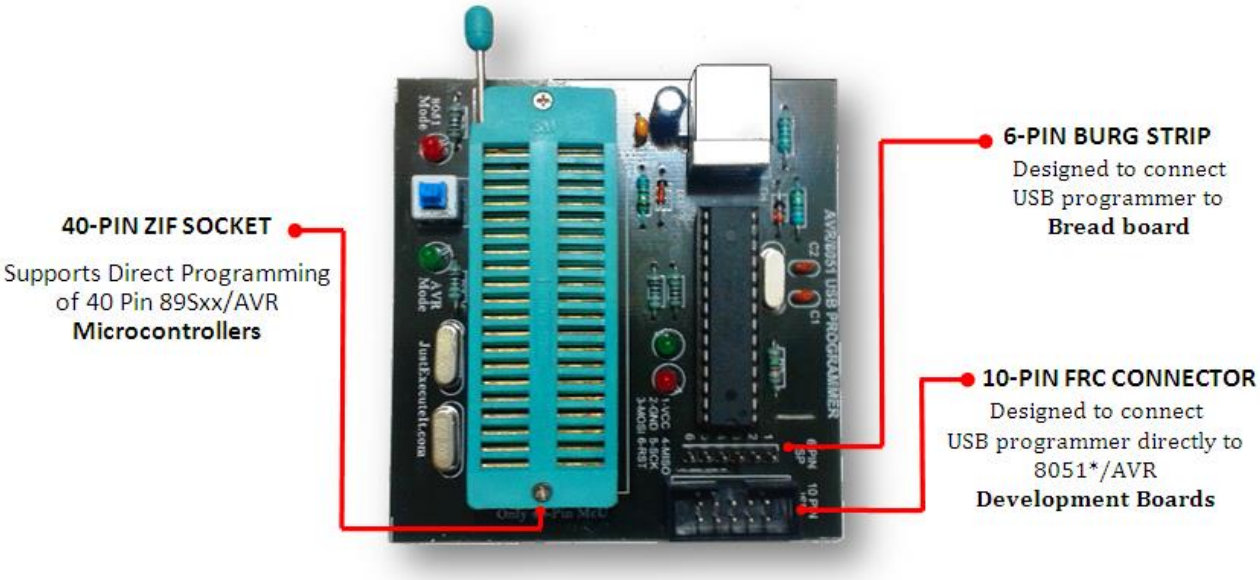
Step 22: check the **programming state** enabled as,



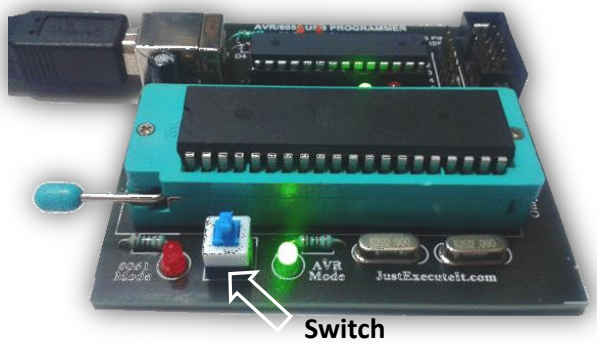
5. PROGRAMMING MICROCONTROLLER

Till now we have successfully completed the driver's installation for Windows XP Operating system .Next we will see how to **dump a '.HEX'** file **into Microcontrollers**. As shown in the picture below there are 3 ways by which a .HEX file can be dumped into microcontroller depending upon the project you are working on.

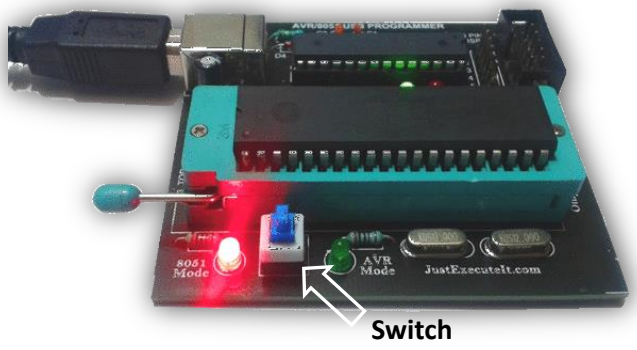
a. By Using 40-Pin ZIF Socket
b. By using 6-Pin Burg strip
c. By using 10-pin FRC Connector


40-PIN ZIF SOCKET
Supports Direct Programming of 40 Pin 89Sxx/AVR Microcontrollers
6-PIN BURG STRIP
Designed to connect USB programmer to Bread board
10-PIN FRC CONNECTOR
Designed to connect USB programmer directly to 8051*/AVR Development Boards

a. **<u>By using 40-Pin ZIF Socket</u>:** It supports only **40 Pin 89Sxx/AVR Microcontrollers.** The desired mode of programming can selected using a switch provided. As a default the ZIF connector stays at 8051(89SXX) Mode (Glowing **RED** LED ON),On pressing switch ZIF connector shifts to AVR Mode(Glowing **GREEN** LED ON)

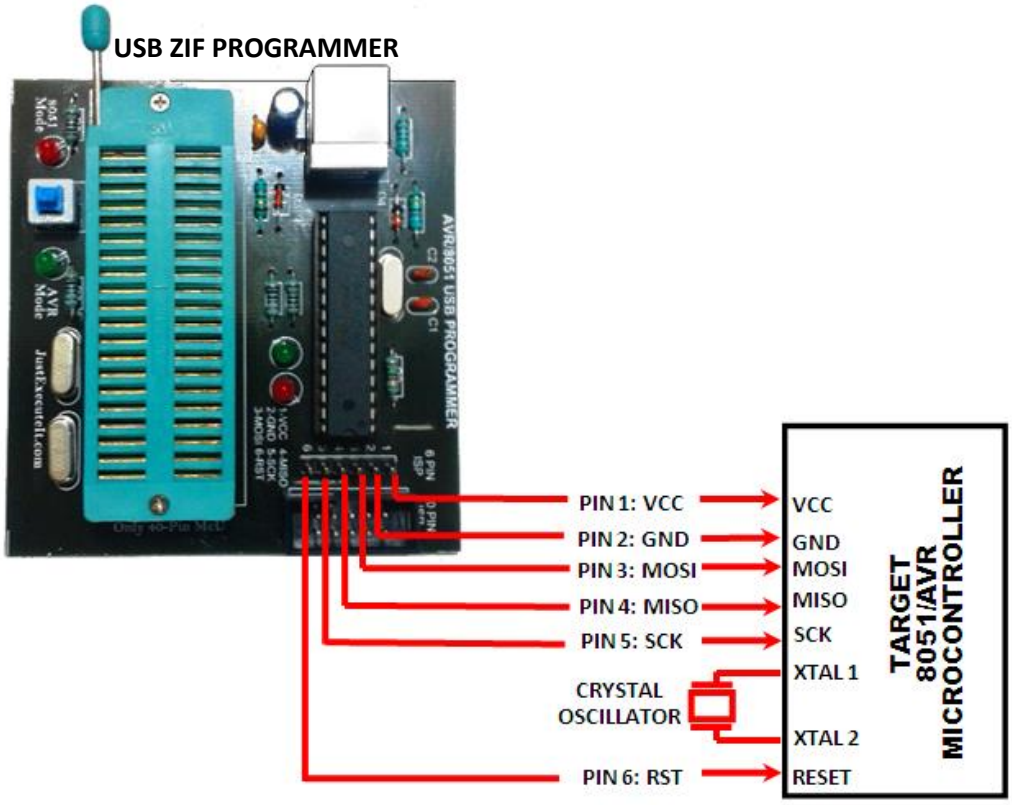


ZIF Connector is in AVR Mode



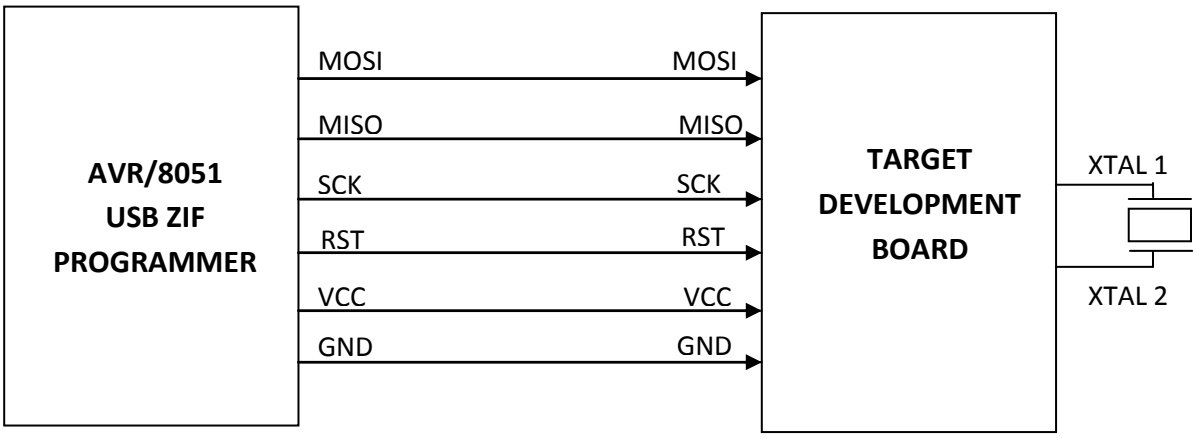
ZIF Connector is in 8051 Mode

b. **USING 6-PIN BURG STRIP:** This can be used while working at **Bread Board .**By using a simple 6 Pin Female **Relimate** connector cable, programmer can be interfaced to Bread Board **.**Make sure that following pin interfacing is made before installation .Such as MOSI, MISO, SCK, RST, VCC, GND Pins of **AVR/8051USB PROGRAMMER** intersects exactly with MOSI, MISO, SCK, RST, VCC, GND Pins of **TARGET DEVELOPMENT BOARD.** Crystal Oscillator =12Mhz(Mostly)

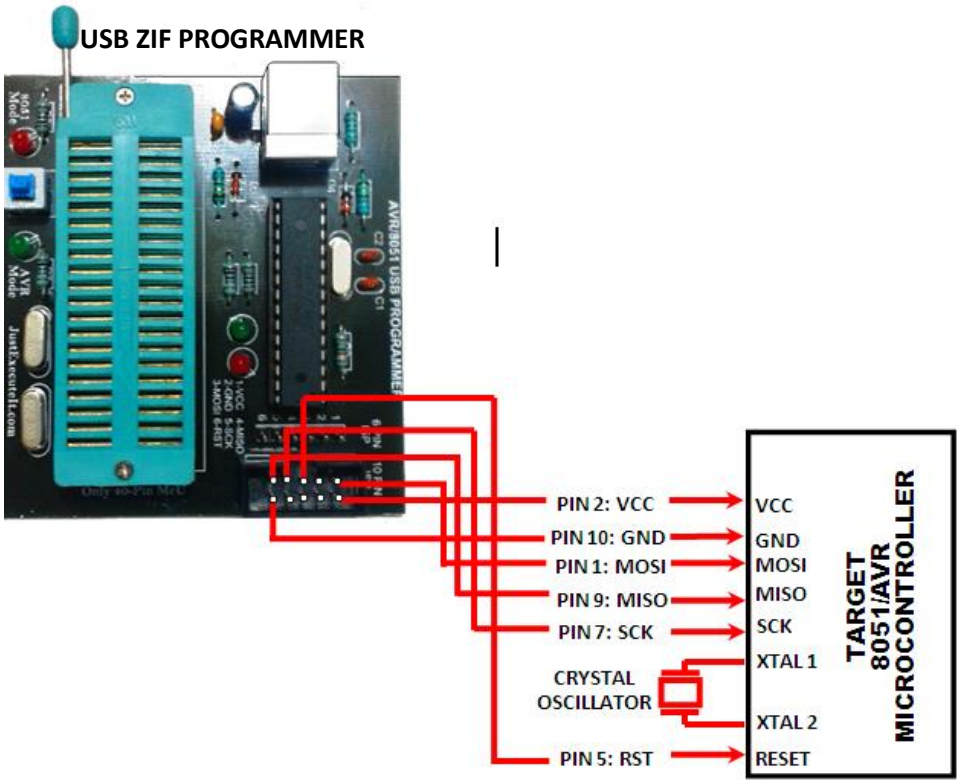


TARGET MICROCONTROLLER AT BREAD BOARD

c. **USING 10-PIN FRC CONNECTOR**



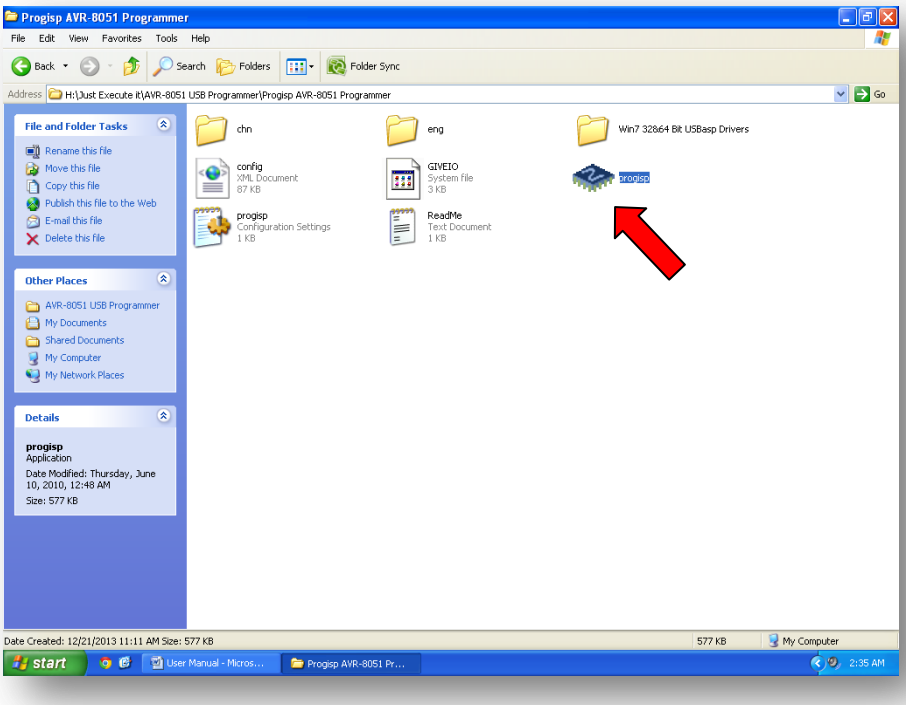
Detailed pin configuration for **AVR/8051 USB PROGRAMMER** is as follows



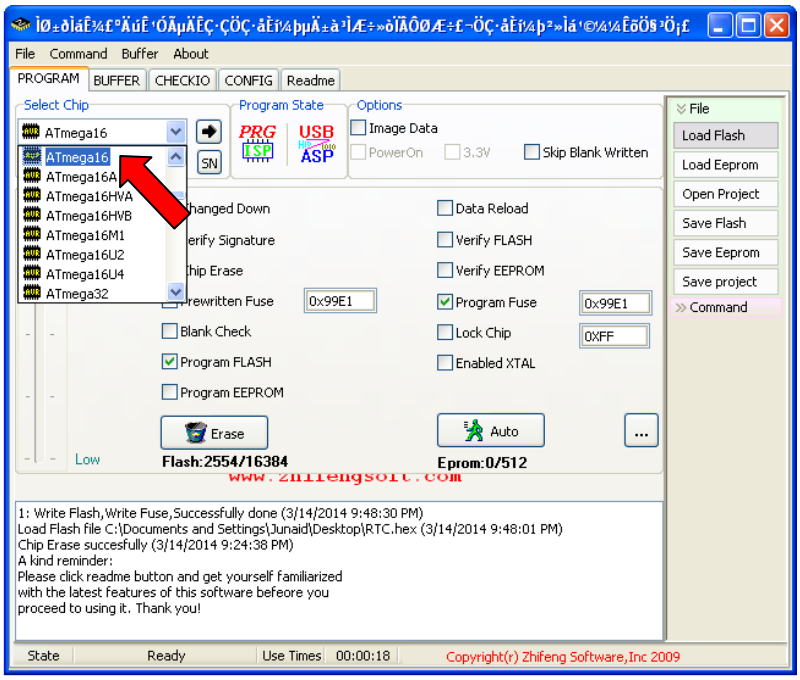
TARGET MICROCONTROLLER AT DEVELOPMENT BOARD

NOTE: While Using 8051 Development board, Please remove capacitor 10uf from reset circuit as reset Pin is used for programming.

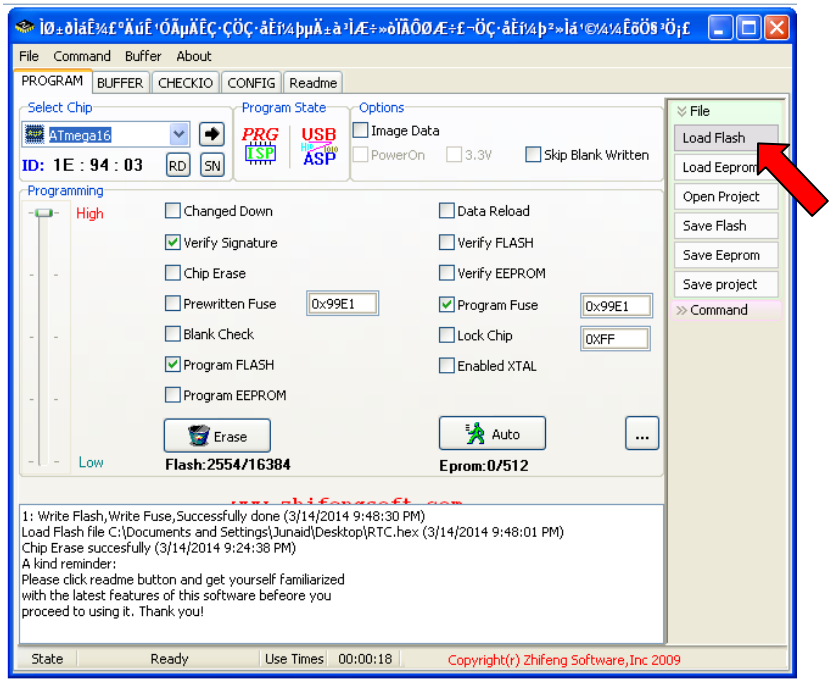
Step 1: Go to **Progisp AVR/8051 Programmer** Folder Present in CD and open **Progisp**



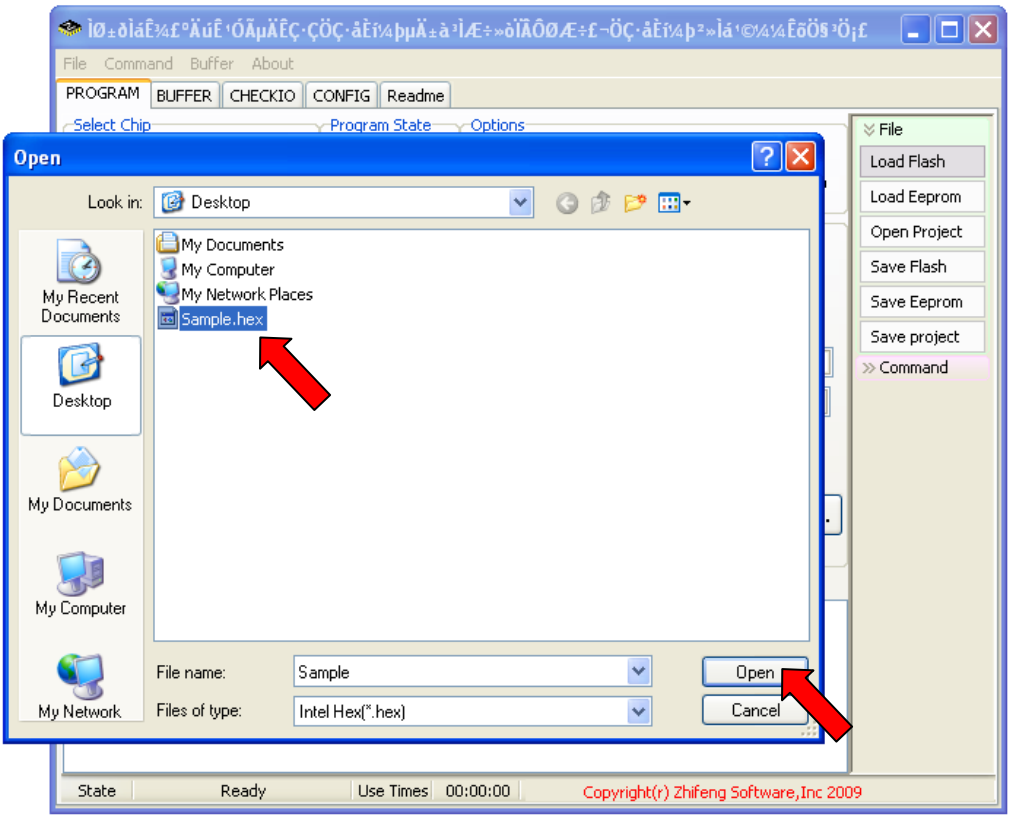
Step 2: Select the Micro controller



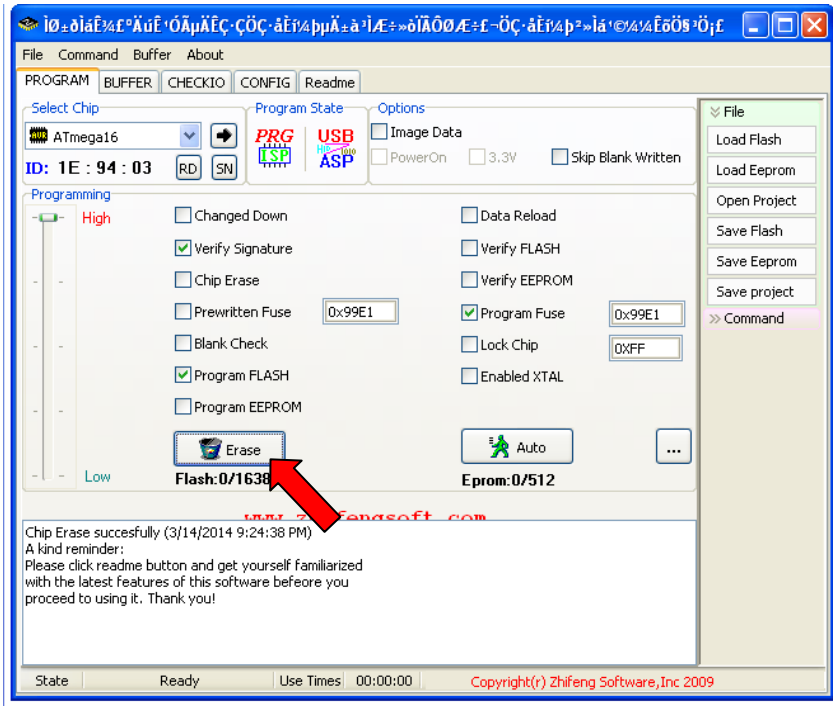
Step 3: Click on **Load Flash** to locate the **.HEX File**



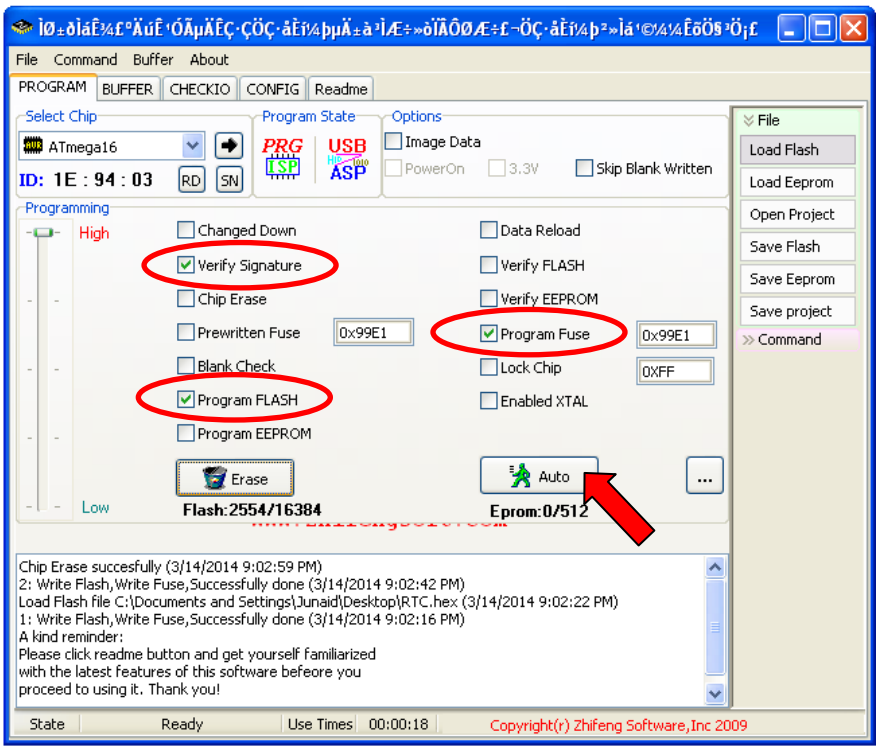
Step 4: Locating **Sample.HEX** file then click **Open**



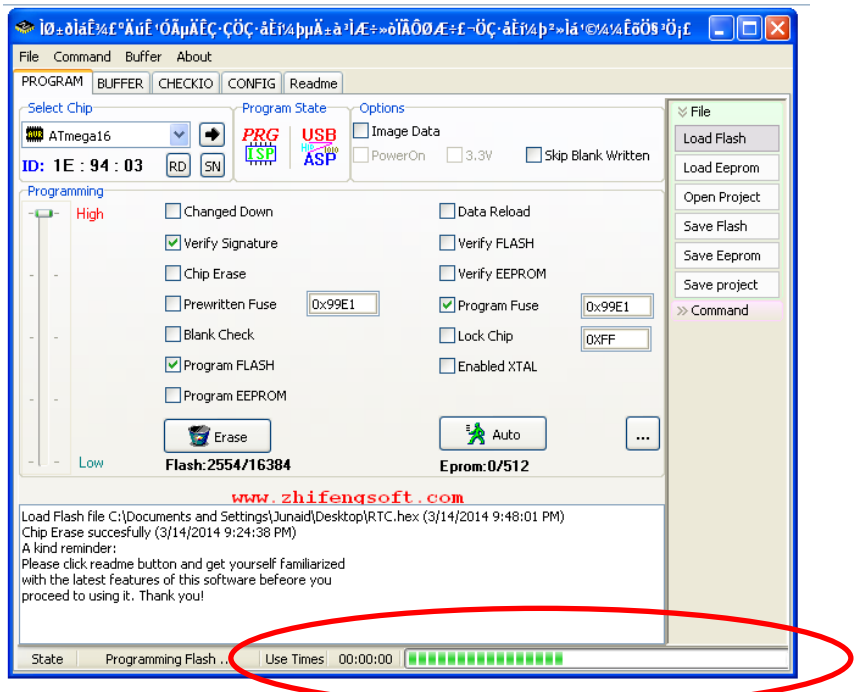
Step 5: Click **Erase**



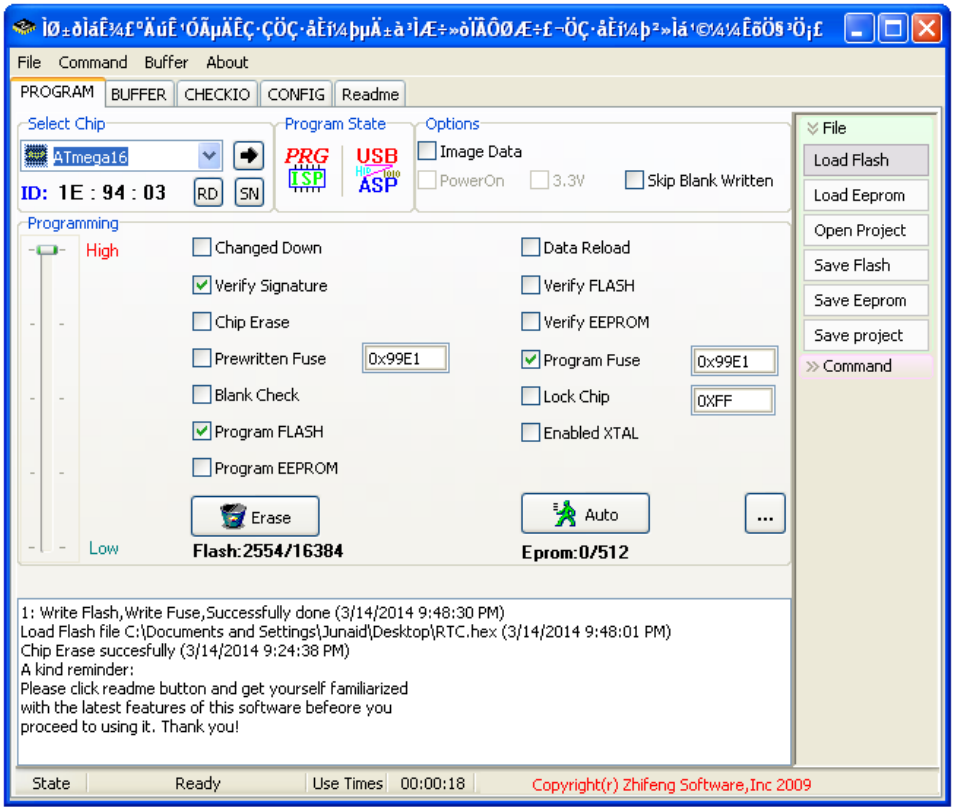
Step 6: Mark **1.** Verify Signature **2.** Program FLASH **3.** Program Fuse for **QUICK PROGRAMMING** and then Click **Auto**



Step 7: Wait few seconds while it's processing.



Step8: Now you can proceed to use your Microcontroller for your Application .**Thank you**



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